

SEQ ID NO: 1. RAG1 Nucleotide Sequence

gagagcagag aacacactt gccttcctt tggatttagat taatatcaac caaatgcag acatctcaac actttggcca
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SEQ ID NO: 2.

RAG 1 Amino acid sequence

MAASFPTLGLSSAPDEIQHPHIKFSEWKFLFRVRSFEKTPEEAQKEKKDSFEGK
PSLEQSPA VLDKADGQKP VPTQPLLKAHPKFSKKFHDNEKARGKAIHQANLRHL
CRICGNSFRADEHNRRYPVHGPVDGKTLGLLRKKEKRATSWPDLIAKVFRIDVK
ADVDSIHPTEFCHNCWSIMHRKFSSAPCEVFPRNVTMEWHPHTPSCDICNTAR
RGLKRKSLQPNLQLSKKLKVLDQARQARQRKRRAQARISSKDVMKKIANCSKI
HLSTKLLAVDFPEHFVKSISQCICEHILADPVETNCKHVFCRCVCLRCLKVMGSY
CPSCRYPFCPTDLES PVKSFLSVLNSLMVKCPAECNEEV SLEKYNHHISSHES
KEIFVHINKGGRPRQHLLSLTRRAQKHRLRELKLQVKAFADKEEGGDVKSVCM
TLFLLA LRNEHRQA DELEAIMQGKGSGLQPAVCLAIRVNTFLSCSQYHKMYR
TVKA ITGRQIFQPLHALRNAEKVLLPGYHHFEWQPPLKNVSSSTDVG IIDGLSGL
SSSVDDYPVDTIAKRFRYDSALVSALMDMEEDILEGMRSQDLDDYLN GPFTVVV
KESCDGMGDVSEKHGSGPVVPEKAVRFSFTIMKITIAHSSQNVKV FEEAKPNSEL
CCKPLCLMLADESDHETLTAILSPLIAEREAMKSSEML ELLGGILRTKFIFRG TG
YDEKLVREVEGLEASGSVYICTLCDATRLEASQNLVFHSITRSHAENLER YEVW
RSNPYHESVEELDRVKGVSAKPFIETVPSIDALHCDIGNAAEFYKIFQLEIGEVY
KNPNASKEERKRWQATLDKHLRKKMNLKPIMRMNGNFARKLMTKETVDAVC
ELIPSEERHEALRELM DLYLKMKP VWRSSCPAEC PESLCQYSFNSQRFAELLST
KFKYRYEGKITNYFHKT LAHVPEIIERDG SIGAWASEGNESGNKL FRRFRKMNA
RQSKCYEMEDVLKHHWLYTSKYLQKFMNAHNALKTSGFTMNPQASLGDP LGI
EDSLESQDSMEF

SEO ID NO: 3.

RAG2 nucleotide sequence

SEQ ID NO: 4. RAG 2 Amino Acid Sequence

MSLQMVTVSNNIALIQPGFSLMNFDGQVFFFQKGWPKRSCPPTGVHLDVKHN
HVKLKPTIFSKDSCYLPPLRYPATCTFKGSLESEKHQYIIHGGKTPNNEVSDK
IYVMSIVCKNNKKVTFRCTEKDLVGDVPEARYGHSINVYSRGKSMGALFG
GRSYMPSTHRTEKWNSVADCLPCVFLVDFEFGCATSYILPELQDGLSFHVS
IAKNDTIYILGGHSLANNIRPANLYRIRVDLPLGSPA VNCTVLPGGISVSSAIL
TQTNNDEFVIVGGYQLENQKRMICNIISLEDNKIEIREMETPDWTPDIKHSKI
WFGSNTGNGTVFLGIPGDNKQVVSEGFYFYMLKCAEDDTNEEQTTFTNSQT
STEDPGDSTPFEDSEEFCSAEANSFDGDDDEFDTYNEDDEDESETGYWITC
CPTCDVDINTWVPFYSTE LNKPAMIVCSHGDGHWWHAQCMDLAERTLIHLS
AGSNKYYCNEHVEIARALHTPQRVPLKKPPMKSLRKKGSGKILT PAKKSF
LRRLF D

SEQ ID NO: 5.

CD154 nucleotide sequence

1 cttctgtcc agaagatacc attcaacit taacacagca tgatcgaaac atacaaccaa
61 acttctccc gatctgcggc cactggactg cccatcagca taaaaattt tatgtattta
121 cttaactgtt ttcttatcac ccagatgattt gggtcagcac ttttgctgt gtatcttc
181 agaagggtgg acaagataga agatgaaagg aatcttcatg aagatttgtt attcatgaaa
241 acgatacaga gatgcaacac aggagaaaga tccttatcct tactgaactg tgaggagatt
301 aaaagccagt ttgaaggctt tggtaaggat ataatgttaa acaaagagga gacgaagaaa
361 gaaaacagct ttgaaatgca aaaagggtgt cagaatcctc aaattgcggc acatgtcata
421 agtgaggcca gcagtaaaac aacatctgtt ttacagtggg ctgaaaagg atactacacc
481 atgagcaaca acttggtaac cctggaaaat gggaaacagc tgaccgttaa aagacaagga
541 ctcttattata tctatgccc a gtcaccc tttccatc gggagcttc gaggcaagct
601 ccatttatacg ccagcctctg cctaaagtcc cccggtagat tcgagagaat cttactcaga
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721 gtatttgaat tgcaaccagg tgcttcggtg tttgtcaatg tgactgtatcc aagccaagtg
781 agccatggca ctggcttcac gtccttggc ttactcaaac tctgaacagt gtcaccc
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1201 ttatcagtg aagatgcaga agggaaatgg ggagcctcag ctcacattca gttatggtt
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1381 aatctctc tccatctc tctttcag tctctctc tcaaccttt tcttccatc
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1681 cccactccctc attacgaaat gactgtattt aaaggaaatc tatttatct acctgcagtc
1741 tccatgtttt ccagagtgaa ctgttattt tatttttga ataataaaga
1801 cctttaaca taaaaa

SEQ ID NO: 6. CD154 amino acid sequence

MIETYNQTSRSAATGLPISMKIFMYLLTVFLITQMIGSALFAVYLHRRLDKIEDE
RNLHEDFVFMKTIQRCNTGERSLSSLNCEEIKSQFEGFVKDIMLNKEETKKENSF
EMQKGDQNPQIAAHVISEASSKTTSVLQWAEKYYTMSNNLVTLENGKQLTVK
RQGLYYTYAQVTFCNREASSQAPFIASLCLKSPGRFERILLRAANTHSSAKPCGQ
QSIHLGGVFELQPGASVFVNVTDPSQVSHGTGFTSFGLLKL